

CLAIMS

1. A method of forming a coating film at part of a surface of a substrate comprising in sequence the steps of:

- i) applying a masking agent comprising inert solid particles over part but not the whole surface of the substrate,
- ii) depositing the coating film over at least part of the surface of the substrate which is covered by the masking agent and over at least part of the surface of the substrate which is free of the masking agent,
- iii) removing the masking agent which is covered by the coating film from the substrate by application of a fluid comprising water, so as to provide a portion of the substrate substantially free of the coating film.

2. A method according to claim 1 in which the masking agent comprises an enamel.

3. A method according to claim 1 in which the inert solid comprises an alkaline-earth carbonate.

4. A method according to any of claims 1 to 3 in which the fluid consists essentially of water applied as a liquid.

5. A method of forming a coating film at part of a surface of a substrate comprising in sequence the steps of:

- i) applying a masking agent comprising particles of glass over part but not the whole surface of the substrate,
- ii) depositing the coating film over at least part of the surface of the substrate which is covered by the masking agent and over at least part of the surface of the substrate which is free of the masking agent,
- iii) removing the masking agent which is covered by the coating film from the substrate, so as to provide a portion of the substrate substantially free of the coating film.

6. A method according to claim 5 in which the glass particles are in the form of microbeads.

7. A method according to claim 5 in which the glass particles are glass powder.

8. A method according to claim 5 in which the glass particles are cullet.

9. A method according to claim 8 in which the particles have a mean diameter comprised between 5 and 100 μm , preferably 5 and 50 μm .

10. A method of forming a coating film at part of a surface of a substrate comprising in sequence the steps of:

- i) applying a masking agent over part but not the whole surface of the substrate, the masking agent comprising a solid phase consisting of particles of which at least 50% of said particles in number have a diameter which is within $-4\mu\text{m}$ and $+4\mu\text{m}$ of the mean number diameter of said particles of the solid phase,
- ii) depositing the coating film over at least part of the surface of the substrate which is covered by the masking agent and over at least part of the surface of the substrate which is free of the masking agent,
- iii) removing the masking agent which is covered by the coating film from the substrate, so as to provide a portion of the substrate substantially free of the coating film.

11. A method according to claim 10 in which the mean number diameter is comprised between 5 and 50 μm .

12. A method according to claim 11 in which the mean number diameter is comprised between 8 and 15 μm .

13. A method according to any one of claims 5 to 12 in which the masking agent is removed by application of a fluid comprising water.

14. A method according to claim 13 in which the fluid consists essentially of water applied as a liquid.

15. A method according to any preceding claims in which the masking agent comprises a substance selected from the group consisting of alcohol solvents, aromatic solvents, aliphatic solvents, water and combinations of two or more of these substances.

16. A method according to any preceding claims in which the masking agent is applied to the substrate by passing it through a screen which has certain areas which are blocked to provide a pattern.

17. A method according to any preceding claim in which the masking agent has a viscosity comprised between 25,000 and 40,000 mPa.s.

18. A method according to any preceding claim in which the coating film is deposited under at least partial vacuum.

19. A method of forming a coating film at part of a surface of a substrate comprising in sequence the steps of:

- (i) applying an enamel over part but not the whole surface of the substrate,
- (ii) vacuum depositing the coating film over at least part of the surface of the substrate which is covered by the enamel and over at least part of the surface of the substrate which is free of the enamel,
- (iii) removing the enamel which is covered by the coating film from the substrate, so as to provide a portion of the substrate substantially free of the coating film.

20. A method according to claim 2 or claim 19 in which the enamel comprises at least 50% of frit.

21. A method according to claim 19 or claim 20 in which the enamel further comprises at least one compound selected from the group consisting of alcohol solvents, aromatic solvents, aliphatic solvents, water and combinations of two or more of these solvents.

22. A method according to any of claims 19 to 21 in which the enamel is removed by application of a fluid comprising water.

23. A method according to claim 22 in which the fluid consists essentially of water applied as a liquid.

24. A method according to any of claims 19 to 23 in which the enamel is applied to the substrate by passing it through a screen which has certain areas which are blocked to provide a pattern.

25. A method according to any preceding claim in which the enamel has a viscosity comprised between 25,000 and 40,000 mPa.s.

26. A method according to any one of claims 1, 2, 3, 4, 13 to 18, and 22 to 25 in which the fluid is applied at a pressure of less than 120 bars.

27. A method according to claim 26 in which the fluid is applied by passing through one or more nozzles.

28. A method according to claims 26 or 27 in which the fluid is first applied to the substrate at atmospheric pressure.

29. A method according to any preceding claims in which the masking agent is dried at a temperature comprised between 10°C and 200°C before applying the coating film.

30. A method according to any preceding claim in which the coating film is a solar-control coating film.

31. A method according to any preceding claim in which the substrate is a sheet of glass.

32. A method according to any preceding claim in which the portion of the substrate substantially free of the coating is a peripheral portion of the substrate.

33. A method according to any preceding claim in which the portion of the substrate substantially free of the coating is a data transmission window.

34. A substrate comprising a masking agent over part but not the whole surface of the substrate and a coating film deposited over at least part of the substrate which is covered by the masking agent characterised in that the masking agent is removable with a fluid consisting essentially of water.

35. Use of a masking agent comprising a substance selected from the group consisting of i) enamels, ii) inert solids, iii) glass, iv) particles of the solid phase of the masking agent of which at least 50% in number have a diameter which is within $-4\mu\text{m}$ and $+4\mu\text{m}$ of the mean number diameter of said particles and v) combination of two or more of the aforementioned.

36. A glazing comprising:

- at least one sheet of glass,
- a coating film over at least part of the surface of the at

least one sheet of glass,

characterised in that traces of a masking agent comprising at least one substance selected from the group consisting of enamel, glass and inert solid are present at the boundary between at least one non-coated portion and at least one coated portion of the at least one sheet of glass.

37. A glazing in accordance with claim 36, in which the coating film is a solar control coating film.